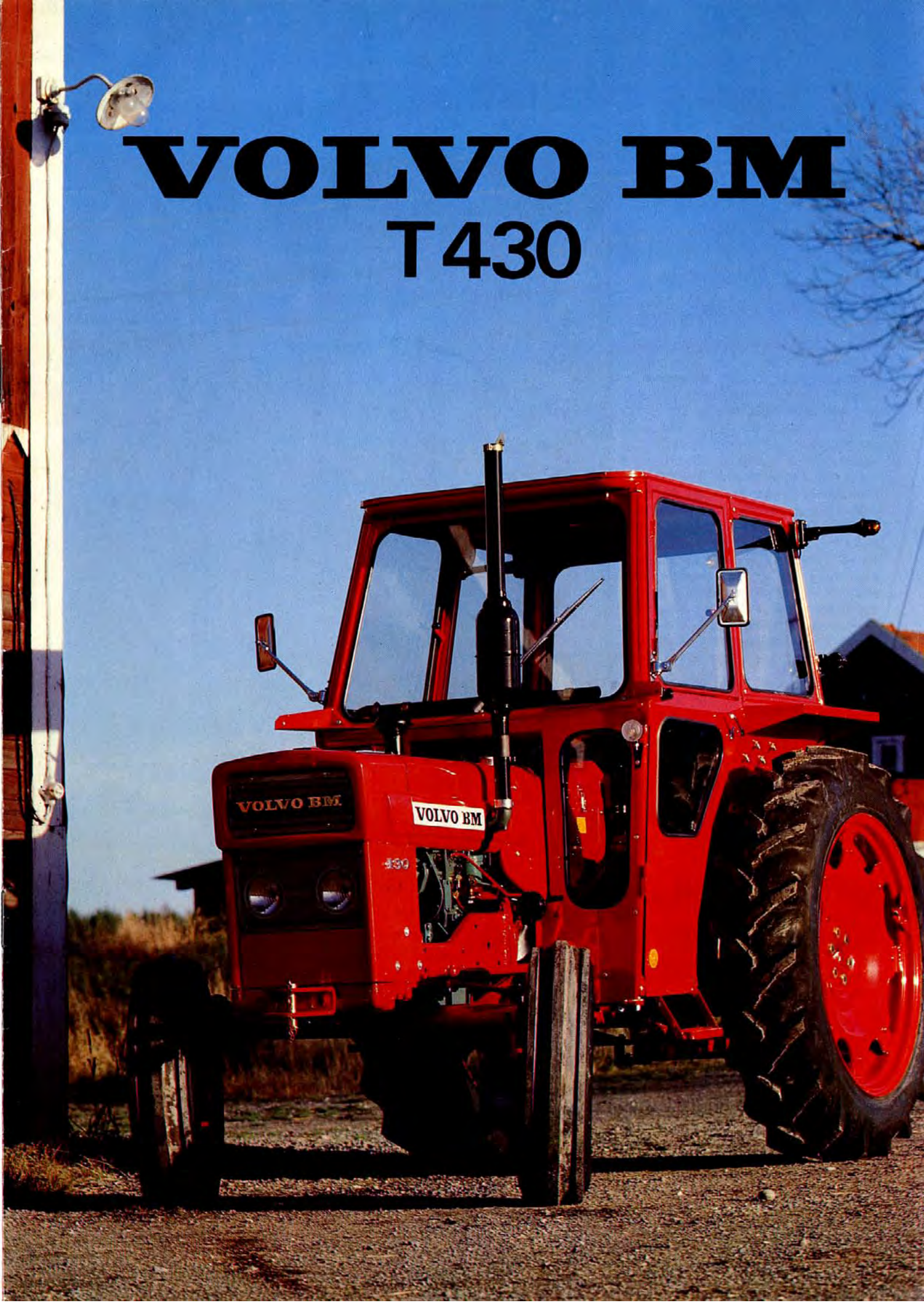
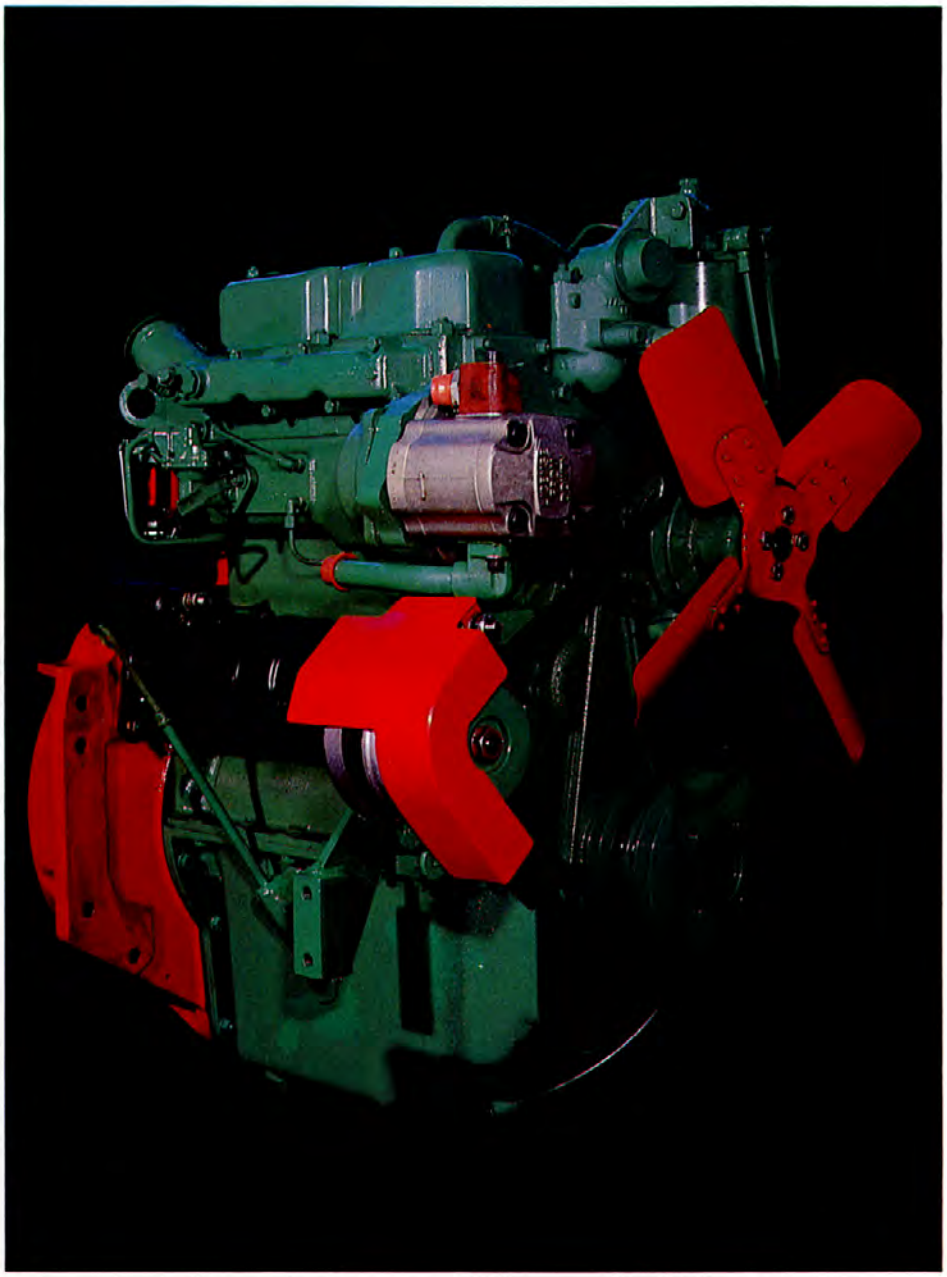
VOLVO BM
T430



DURABILITY



The Volvo BM T 430 is an ideal tractor for both big and small farms where the demand is primarily for an economic, versatile and durable unit. The T 430 is a tractor which is just as suitable for work in the field, in the forest or on roads since it is fast and flexible and well prepared for the fitting of different implements. Front-mounted loaders, timber crane, winches and dozer blades are examples of equipment that can easily be fitted to the T 430 in addition to the implements connected to the three-point lift. High ground clearance and good weight distribution in combination with the large driving wheels provide excellent off-the-road performance under difficult ground conditions.

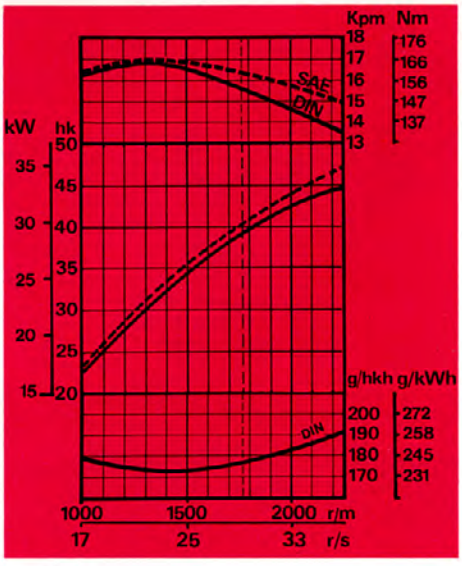
The Volvo BM T 430 is of robust design and construction and has excellent operational dependability which makes it really reliable and tough.

The Volvo BM T 430 is powered by a three-cylinder, direct injection diesel engine with a swept volume of 2.5 dm^3 (l) and an output of 32.8 kW (44.5 hp) DIN at 37 r/s (2250 r/min).

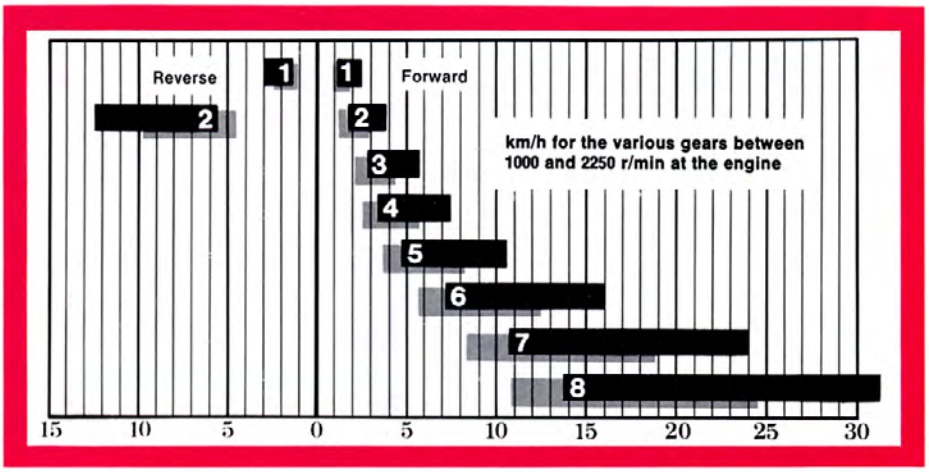
This is a lively and fuel-thrifty power pack with excellent low-speed performance. The T 430 has a 12 V electrical system and a 450 W alternator which ensures efficient charging of the batteries even while the engine is running at low speed. The batteries are conveniently located immediately in front of the instrument panel and readily accessible for inspection.

A powerful starter motor — 3 kW (4 hp) — together with the "Thermostart" guarantee reliable starting of the engine even in extremely cold weather.

The hydraulic pump for the hydraulic system is located on the right-hand side of the engine. This pump is driven directly from the engine so that the hydraulic system is completely independent of the tractor clutch. The hydraulic pump delivers 0.55 dm^3/s (33 l/min) at full engine speed.



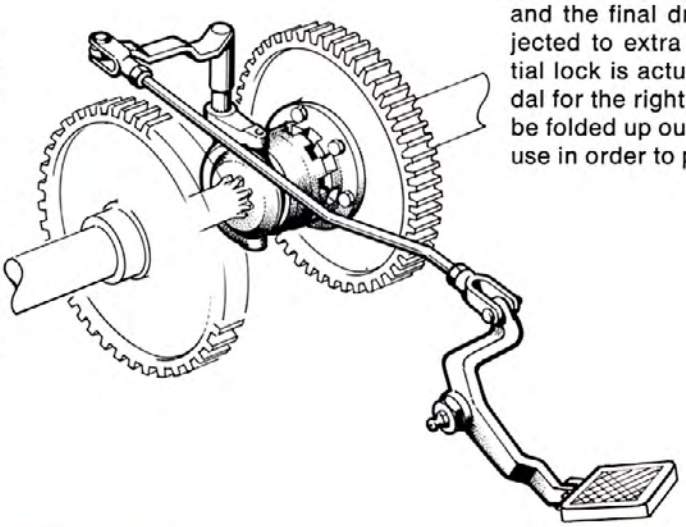
The gearbox on the Volvo BM T 430 has a speed range that is very suitable for many widely varying jobs — 8 speeds forwards and 2 reverse well divided into a high-speed and a low-speed range. The T 430 can be delivered fitted with the Trac Trol — a hydraulically actuated quick-shift gear which doubles the number of grear ratios. The short gear lever and the exact gear positions make changing easy and smooth.



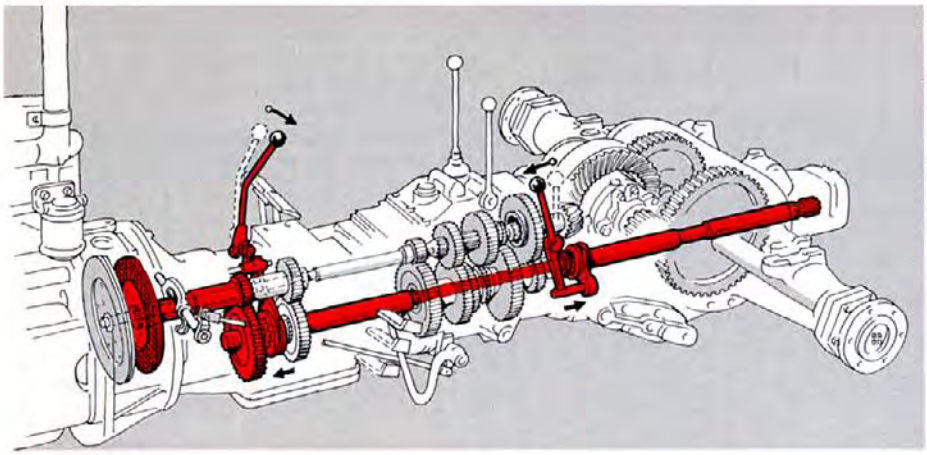
The lever on the left-hand side of the instrument panel actuates the quick-shift gear instantaneously and without declutching. When you change over from the direct drive position to the low speed position, tractive effort increase by 27 % without any interruption in the delivery of power. Naturally, all the gears can be used for engine-braking.

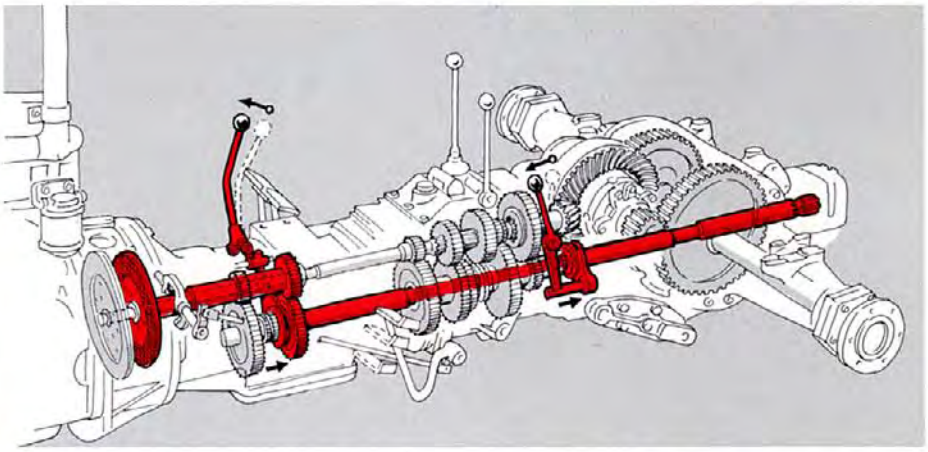
The T 430 is fitted with a dual clutch. When the clutch pedal is pressed halfway down, the propulsion drive is disengaged and when the clutch pedal is depressed all the way, the power take-off is also disengaged. This means that the tractor can be stopped without power take-off drive being influenced — a great advantage in many jobs.

In order to prevent the engine from being started accidentally, the T 430 is fitted with a starting interlock unit. The engine can only be started when the clutch pedal is depressed.



When the tractor is being used on very difficult surfaces, the differential lock is very useful. Tractive effort is increased slip is reduced and there is much less risk of the machine bogging down. The differential lock secures together both the rear axle halves. Using this type of differential lock, the differential and the final drive gears are not subjected to extra stresses. The differential lock is actuated by means of a pedal for the right foot and this pedal can be folded up out of the way when not in use in order to provide more space.





Standard euipment on the Volvo BM T 430 includes both independent and ground speed power take-offs. As a result of this the T 430 has many different possibilities of driving different machines in the most advantageous way.

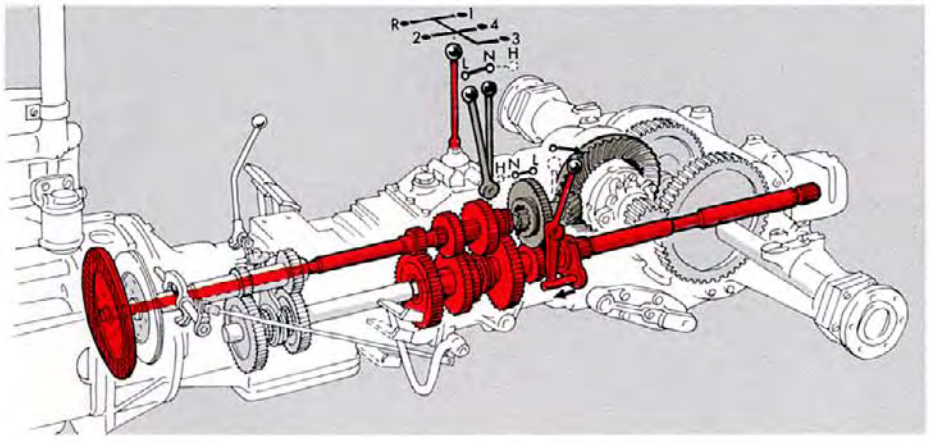
The independent power take-off is actuated over a separate plate in the dual clutch.

This means that the tractor can be stopped and started again without power take-off drive being influenced. Standard power take-off speed — 540 r/min — is always attained irrespective of version at 1770 engine r/min. In the case of tractors without the Trac Trol quick-shift gear, the independent power take-off has two gears so that the standard power take-off speed is also attained at 1520 engine r/min. This means standard power take-off speed at twice the number of travel speeds. Gear shift of the power take-off is carried out by means of a lever conveniently located to the right in front of the driver. "The 1520 r/min reduction" is used to advantage for machines requiring less output such as mowers, tedders, etc while the "1770 r/min reduction" is used, for example for equipment such as a rotavators and forage harvesters.

On tractors fitted with the Trac Trol gear, there is also twice the number of operating speeds with a standard power take-off through the quick-change gear but then at the same engine speed (1770 r/min).

The ground speed power take-off is the ideal equipment for driving trailers with powered axles since the power take-off and driving wheels follow each other irrespective of the gear that is engaged.

On the T 430, the ground speed power take-off can also be utilized while the tractor is standing still to drive different machines. The ratio register of the gearbox is used to obtain different power take-off speeds from 242 to 900 r/min at full engine speed and the reverse gear can also be used for reversing the direction of rotation, this being of great assistance for clearing different types of harvesting machines.



BUILT-IN TECHNOLOGY

The Volvo BM T 430 is fitted with Terra Trol three point lift with automatic depth control which can be adjusted for combined control or draft control. The driver chooses the control system which is most suitable for different implements and different operating conditions. The top link bracket can also easily be secured by means of an attachment to give pure position control, that is to say the position of the implement corresponds to the setting of the control lever.

The automatic depth control system provides maximum transfer of weight to the driving wheels and contributes towards a good working result

The hydraulic pump on the T 430 has high capacity. The hydraulic system has a total capacity of 23 dm^3 of fluid, of which 18 dm^3 can be taken out for external hydraulic systems. This makes the T 430 very suitable for tipping trailers and for front end loaders. T 430 can be equipped with single-acting and double-acting auxiliary valves and quick couplers as optional. Actuation of the external hydraulic functions is carried out completely independent of the three-point lift.

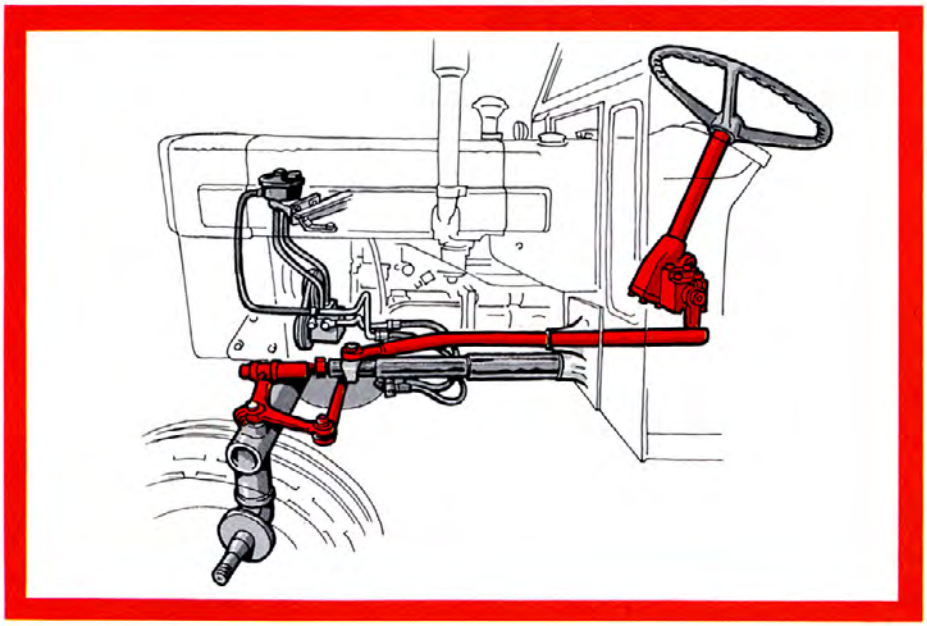
The three-point coupling is Category II. In order to facilitate the attachment of heavy implements, the ends of the lower links are telescopic. The rear towing attachment is a drawbar of swing type vertically adjustable and with two positions lengthwise.

OPERATING SAFETY

Wide doors, liberally dimensioned footsteps and correctly located hand rails make it both easy and convenient to get into and out of the driving seat of the T 430. The driver has an excellent range of all-round vision through the large windows. The cab is fitted with rubber mountings, this contributing to a low level of noise and effective damping of vibration. The seat is fitted with parallel springs and can be adjusted both fore-and-aft and vertically. Shock absorbers and torsional springs absorb impact and this makes driving even more comfortable. The springing can also be adjusted to suit the weight of the driver.

The controls and operating levers are easily accessible and the instruments in the panel are easy to read and have individual lighting. Disc brakes with mechanical power assistance ensure efficient and safe braking effect and they also facilitate operation on bad surfaces in the form of steering brakes.

The cab heater ensures that the driver has a comfortable temperature inside the cab even in extremely cold weather. The warm air is distributed throughout the cab by nozzle at floor level and at the windscreen.



The Volvo BM T 430 Special can be fitted with hydraulic servo steering which makes steering even more convenient.

The servo steering is fitted with a separate pump and hydraulic fluid container.

When the engine is switched off, for example if the tractor is being towed, the steering functions as a purely mechanical system.

The T 430 is available in two different versions — the Standard and the Special.

The T 430 Special is fitted with an extra powerful front axle and steering gear and also sturdier front tyres. Together with the servo steering, this makes the T 430 Special particularly suitable for the greater stresses resulting from loading, forestry operation, etc.

As an alternative to the 8-speed gearbox, both models can be fitted with the Trac Trol — the hydraulically actuated quick-shift gear. The T 430 Standard can also be fitted with an adjustable front axle.

Specifications for the Volvo BM T 430

Engine

3-cyl. diesel engine with direct injection,

type	D 25
Displacement	2.5 dm³ (l)
Compression ratio	18.5:1
Rating at 37 r/s (2250 r/min) DIN	32,8 kW (44,5 hp)
Max torque at 20 r/s (1200 r/min)	170 Nm (17,3 kpm)

Electrical system

Voltage 12 V, Battery capacity 140 Ah.
Generator rating 450 W. Starting motor rating 3 kW (4 hp).

Transmission

11/9″ dual dry plate clutch.

Number of gears forward/reverse 8/2 divided into a high and a low range.

Volvo BM 430 can be delivered with a hydraulically operated quick-change reduction unit (Trac Trol) which gives each gear a direct and a low ratio position.

Speeds in km/h with 13.6—36 tyres

Gear	Trac Trol	at 30 r/s (1770 r/min)	at 37 r/s (2250 r/min)
1	in dir./low	2.0/1.6	2.5/2.0
2	,,	3.0/2.4	3.9/3.0
3	,,	4.6/3.6	5.8/4.6
4	,,	5.9/4.7	7.5/5.9
5	,,	8.3/6.6	10.6/8.4
6	,,	12.7/10.0	16.1/12.7
7	,,	19.0/15.0	24.1/19.0
8	,,	24.5/19.3	31.1/24.6
RL	,,	2.4/1.9	3.0/2.3
RH	,,	9.8/7.8	12.5/9.8

Brakes

Fully enclosed disc brakes on the differential shafts.

Power take-offs

Live and ground speed PTO. Tractors without Trac Trol reduction unit have standard 2-speed PTO while tractors with Trac Trol have single-speed PTO. The live single-speed PTO runs at 540 r/min at an engine speed of 1770 r/min while the 2-speed version runs at the same speed at engine speeds of 1520 and 1770 r/min. The ground speed PTO makes 31.8 turns per drive wheel revolution.

The PTO rating at max. speed is 32.2 kW (43.8 hp) (OECD).

Tyres

Front	7.50—16/6
Rear	13.6—36/6
	12.4—36/6

Hydraulic lift — Terra Trol

Lifting power	13.7/11.8 kN (1 400/1 200 kp) at a lift range of 640/720 mm.
Control	Combined control. Tractive fore control. Floating position. Reaction to compression and tension forces in the top link.
Hydraulic pump	Capacity 0.55 dm³/s (33 l/min) Pressure 15.7 MPa (160 kp/cm²)

Single and double-acting hand control valve for exterior hydraulic cylinders.

Dimensions (with 13.6—36 tyres)

Wheel base	2100 mm
Length	3300 mm
Width (for 1410 mm track)	1770 mm
Height with cab	2340 mm
Track	
front	1220 mm
rear	1360, 1410, 1490, 1540, 1630, 1770 mm

Weight

Tractor with cab approx. 2400 kg

Towing equipment

Swinging drawbar.

Optional equipment includes:

Adjustable front axle, heavy-duty front axle (T 430 Special), ballast weights, protective frame, cab, belt pulley.

Specifications and design are subject to alteration without prior notice.

VOLVO BM

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